REMARKS

This application was filed with twenty-four claims. Claims 1-4, 8-12, and 17-19 have been rejected and claims 5-7, 13-16, and 20-24 have been objected to. In response, claims 1-11 have been amended and claims 12-24 have been canceled. Additionally, new claims 25-29 have been added to further describe the invention and do not include new matter. Therefore, amended claims 1-11 and new claims 25-29 are pending in the Application. The Examiner has also noted that a Supplemental Declaration and Abstract are required, and these are enclosed herewith. Reconsideration of the application based on the amended claims and the arguments' submitted below is respectfully requested.

Rejection of Claims 11 and 12 under 35 U.S.C. §112, First Paragraph

The Examiner has rejected claims 11 and 12 as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. In response, Applicant has amended claim 11 to change the name of the transfer cylinder to perforated cylinder, which is discussed in detail in Applicant's Specification on page 11, line 14 through page 13, line 3. As a result, Applicant has described the usage of the perforated cylinder in such detail that one skilled in the art could make and use the invention.

Rejection of Claims 1-4 and 17-19 under 35 U.S.C. §102(b)

The Examiner has rejected original claims 1-4 and 17-19 as being anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 2,948,022 issued to Day ("the Day patent"). In response, Applicant has amended claims 1-4 and canceled claims 17-19. Each of the amended claims 1-4 is patentable over the Day patent.

The Day patent does not disclose the same invention as described in claims 1-4. The Examiner states that the Day patent discloses an air duct terminating adjacent the surface of the revolving cylinder **18**. However, referring to Fig. 1 of the Day patent, it is clearly shown that the air duct terminates at the surface of the combing or carding cylinder **46** positioned between the condenser drum **15** and the revolving cylinder **18**. The Day patent describes the lint-guiding passage **52** surrounding the carding cylinder **46** as being so narrow (see Figs. 2 and 3) as to keep the lint in contact with the toothed surface of the carding cylinder **46** so that the lint may be combed and smoothed (see column 6, lines 64-72), which means that this could not be a continuation of the air duct. Furthermore, following the teaching of the Day patent, any air movement on either side of the combing cylinder **46** would not allow smoothing and paralleling of the fibers of lint, a function of the Day patent that is described in column 6, lines 68-72. Moreover, in column 3, lines 69-75, Day describes an air duct D that is connected between the end of the condenser drum **15** and a suction fan, with the suction fan having sufficient capacity to

withdraw substantially all of the air entering through duct **13**. As a result, little air is allowed to pass though the lint guiding passage **52**.

The Examiner goes on to state that the saw cylinder with interposed spacers described in column 4, lines 19-20, allows air to flow between the blades and teeth, thereby separating the conveying air from the desirable fibrous material. However, there is no space described in the Day patent between the saw cylinder blades **18** to allow the air to pass out of the apparatus. Furthermore, since the conveying air has already been removed at the condenser drum **15** (as discussed above), there could be little air flow between the blades and the teeth. Furthermore, Day's preferred construction of cylinder **18** is to use a rigid tubular core that is 11 3/4 inches in outside diameter, covered with Garnett wire, bringing the outside diameter of the wire to 12 inches, which is the same size as the conventional gin saws used at the time of Day's invention. As a result, the 1/8 inch radial depth of the Garnett wire could not pass any appreciable amount of air.

Moreover, the conveying air entering the apparatus in the prior art is completely removed by the conventional slow turning condenser drum that not only allows the fiber tufts to agglomerate, but forms the tufts into a batt, trapping the trash and dust inside the batt at the same time all the conveying air is exhausted out the ends of the slow turning condensing drum. Such a method teaches away from the current invention, in which specific means are provided to avoid making a batt from fiber tufts and trash. Such a batt would prevent the air from passing

through the physical blockages in the prior art between the condenser drum and the saw cylinder.

The Examiner further states that the Applicant has not described how or by what means a velocity or fiber-to-air mass ration would prevent agglomeration of the individual fiber. However, looking at Applicant's Specification, pages 8 and 9, the operation of the claimed invention is described accurately. The basic principle of the present invention is the delivery of fiber tufts and trash in an air stream as they are received from a gin directly onto the teeth of the revolving cleaning cylinder without allowing the tufts and trash to agglomerate. The present invention accomplishes this by conveying air at a high speed from the point of delivery of the fiber tufts until the fiber tufts are separately impaled on the teeth of the revolving cleaning cylinder. Furthermore, this is to be done without allowing the fiber tufts to agglomerate through their travel, as opposed to prior art methods, which allowed the tufts to agglomerate into a batt on the surface of a drum, wherein the trash is compressed into the cotton for less efficient removal. The present invention conveys the fiber tufts through an air stream that is only possible if space is provided between the discs of the saw cylinder **16**. The spacing provides sufficient area for air flow to provide the desired air velocity, which results in the lint and trash from the gin being impaled on the teeth of the saw cylinder **16**. The doffing brush **17** then develops energy to propel the fiber tufts from the air stream in to the lint cleaner housing **19**. The battery condenser (not shown) includes an exhaust fan,

and, since the entire housing operates under sub-atmospheric pressure, the single air stream from the gin through the battery condenser propels the tufts. The tufts thereby individually engage the streamer plate, and the momentum of the tufts over the edge of the streamer plate, which thereby separates the desirable fiber tufts from the trash. As a result of the arguement above, independent claim 1 and dependent claims 2-4 are not anticipated by the Day patent.

From the analysis above, Day does not provide an air duct that extends to the surface of the revolving cylinder providing a strait of air to the revolving cleaning cylinder to prevent agglomeration of the fiber tufts. Consequently, Applicant respectfully requests that the Examiner determine from the above analysis that amended claims 1-4 are not anticipated by the Day patent.

Rejection of Claims 1 and 8-10 under 35 U.S.C. §102(b)

The Examiner has rejected original claims 1 and 8-10 as being anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 4,407,047 issued to Van Doorn ("the Van Doorn patent"). In response, Applicant has amended claims 1 and 8-10. Each of the amended claims 1 and 8-10 are patentable over the Van Doorn patent.

As with the Day patent, this Van Doorn reference patent varies from the current invention in that it fails to teach a manner of conveying air at a high speed through the apparatus to the saw cylinder. The Van Doorn patent teaches controlling the rate of speed of the feed of fiber tufts with the rotation of feed rollers **17** and a condenser cylinder **32** to assure the feeding to the saw cylinder **37** of a batt

of optimum thickness. However, the Van Doorn patent fails to teach the apparatus described in the present invention having an air duct which provides an air stream through the entire apparatus that terminates at the saw cylinder **37**. The Van Doorn patent simply uses the condenser cylinder **32** and the rollers **33** and **34** together with the feed plate **36** to form a batt thus agglomerating the fiber tufts. See column 3, lines 41-44. Accordingly, the Van Doorn patent does not disclose the elements required in claim 1.

The Examiner further states that the transfer cylinder **32** of the Van Doorn patent is equivalent to the perforated cylinder described in the present invention. As the Examiner stated, the transfer cylinder **32** is a condenser cylinder, which conventionally has perforations. However, the Van Doorn patent does not discuss the operation of a perforated cylinder that rotates in close proximity to the surface of the revolving cleaning cylinder, as is required in claims 8-10. Looking at Figures 1 and 2 of the Van Doorn patent, the transfer cylinder **32** is not in close proximity to the saw cylinder **37**. In fact, the Van Doorn patent teaches the use of two rollers **33** and roller **34** between the transfer cylinder **32** and the saw cylinder **37** such that the transfer cylinder **32** and the saw cylinder **37** could not be in close proximity. As a result, the Van Doorn patent does not anticipate claim 8, or the claims dependent upon claim 8.

Furthermore, the basic principle of the present invention is to deliver the fiber tufts and trash directly onto the teeth of a revolving cleaning cylinder without

allowing the tufts and trash to agglomerate. The Van Doorn patent teaches away from this basic concept. Looking at column 3, lines 21-23, the Van Doorn patent teaches the use of the condenser **32** as a means to agglomerate the cotton into a batt on the surface. This batt of cotton is then processed through the feed works of the lint cleaner to clean the fiber tufts. Therefore, the Van Doorn patent does not anticipate the present invention.

As a result, the Van Doorn patent does not anticipate claims 1 or 8-10 of the current application. Consequently, Applicant respectfully requests that the Examiner determine from the above analysis that amended claims 1 or 8-10 are not anticipated by the Van Doorn patent.

Rejection of Claims 11 and 12 under 35 U.S.C. §103(a)

The Examiner has rejected original claims 11 and 12 as being obvious under 35 U.S.C. §103(a) by the Van Doorn patent in view of the Day patent. In response, Applicant has amended claim 11 and canceled claim 12. Claim 11 has been amended to further illustrate the perforated cylinder, as is discussed in Applicant's Specification on page 8, line 20 through page 9, line 6. The perforated cylinder is necessary to allow the proper operation as described in the application. As a result, amended claim 11 is therefore patentable over the Van Doorn patent in view of the Day patent. Furthermore, as stated above, the Van Doorn patent teaches away from the current invention, and therefore should not serve as a basis for this rejection.

CONCLUSION

The applicant therefore respectfully submits that amended claims 1-11 and new claims 25-29 are not anticipated under 35 U.S.C. 102(b) in view of the Day patent or the Van Doorn patent. Furthermore, the amended claims 1-11 and new claims 25-29 are not made obvious with respect to the Van Doorn patent in view of the Day patent. Accordingly, Applicant respectfully submits that claims 1-11 and 25-29 in the instant application are in condition for allowance by the Examiner in view of the above amendment.

Respectfully submitted,

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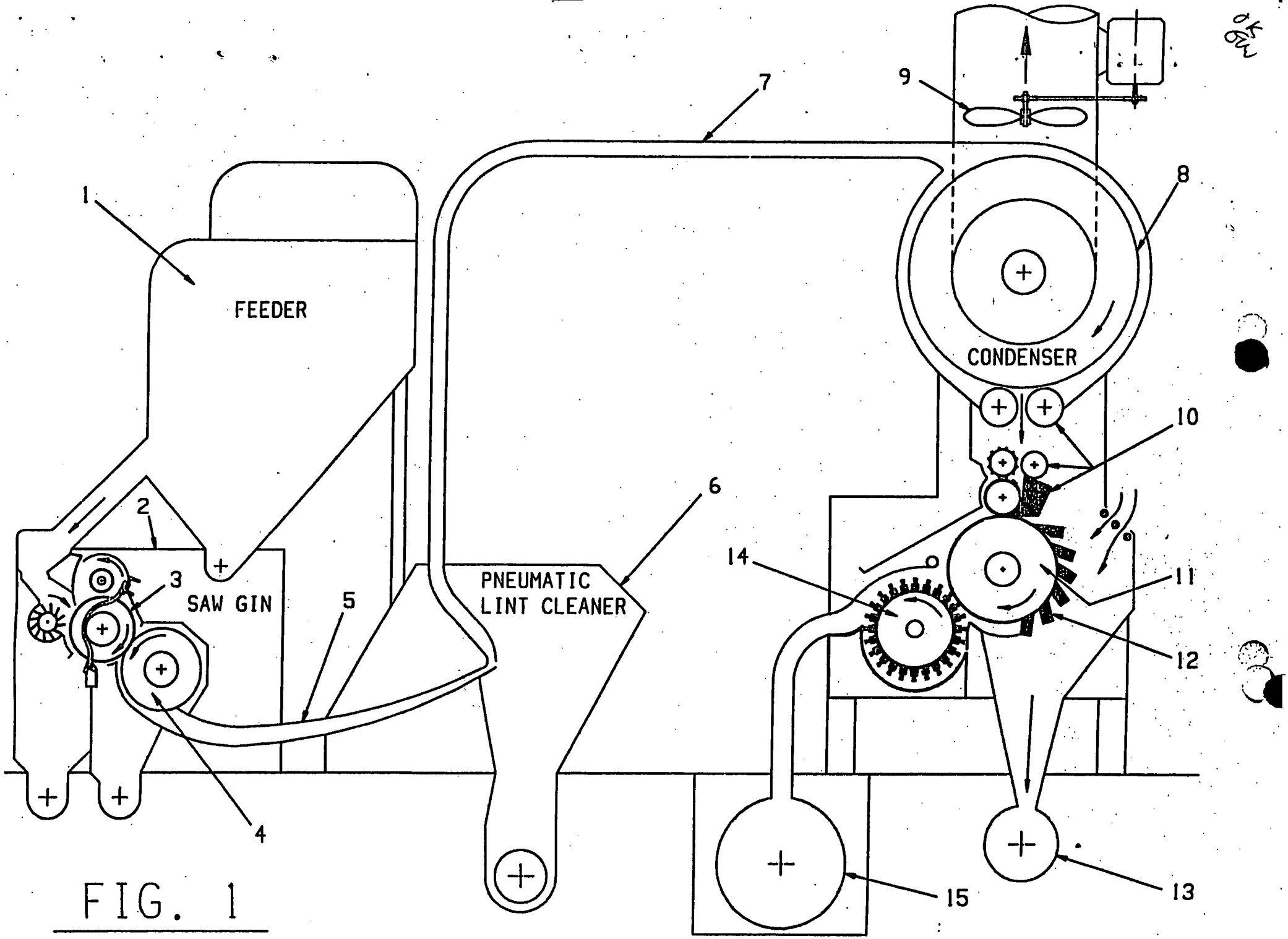

FIG. 1

Prior Art

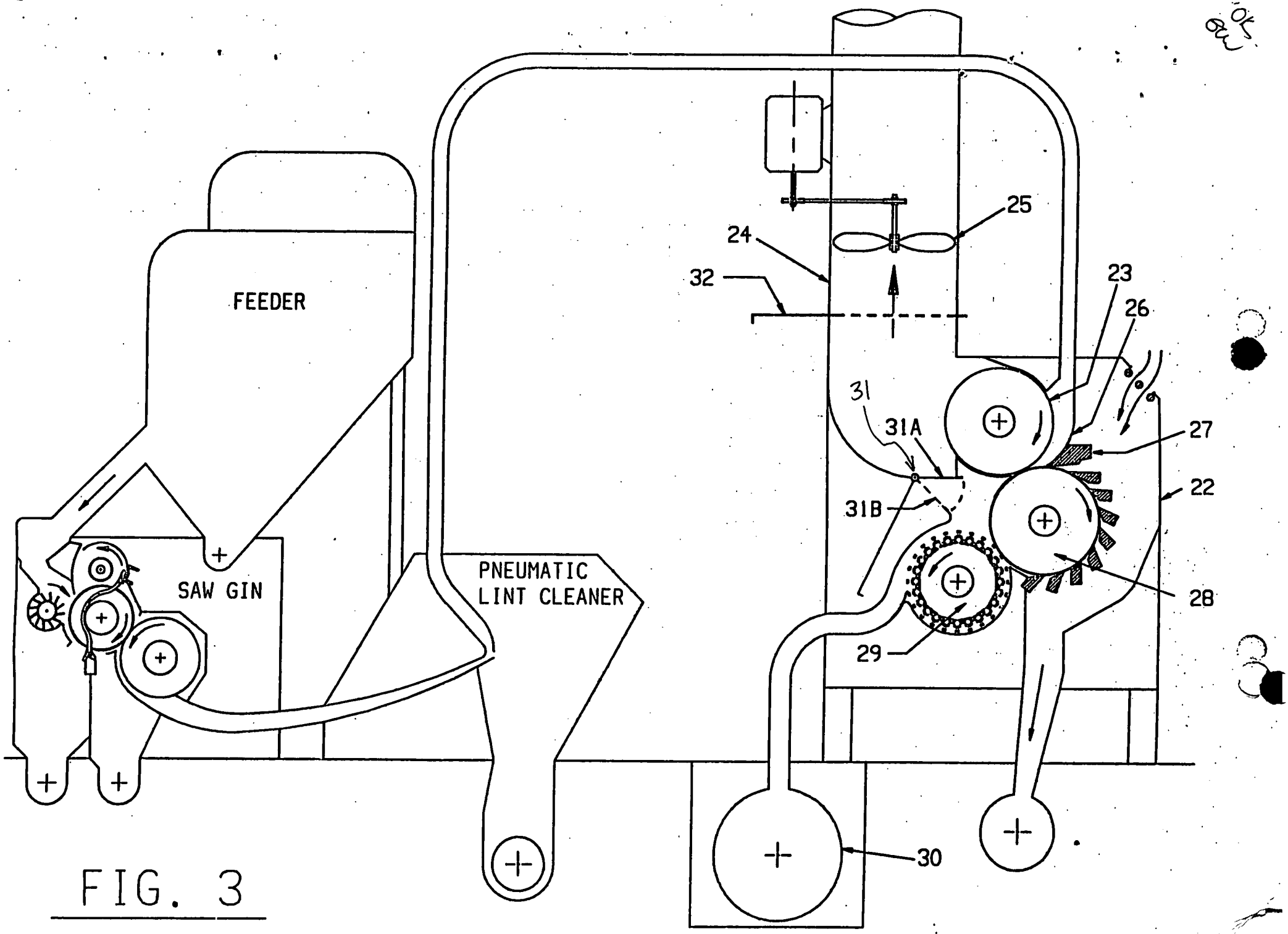
FEEDER
SAW GIN
PNEUMATIC
LINT CLEANER
24
32
25
23
26
31
31A
31B
27
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FIG. 3